Reviewer’s report

Title: A comparison of photographic, replication and direct clinical examination methods for detecting developmental defects of enamel

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Reviewer: Vita Machiulskiene

Reviewer’s report:

> 1. Is the question posed by the authors well defined? YES.
> 2. Are the methods appropriate and well described? YES.
> 3. Are the data sound? YES.
> 4. Does the manuscript adhere to the relevant standards for reporting and data deposition? YES.
> 5. Are the discussion and conclusions well balanced and adequately supported by the data? SEE COMMENTS.
> 6. Are limitations of the work clearly stated? NO.
> 7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
> 8. Do the title and abstract accurately convey what has been found? YES
> 9. Is the writing acceptable? YES

> Reviewer’s report
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> - Major Compulsory Revisions

In my opinion, the conclusion made by the authors sounds very ambitious and not really validated by the study results unless it applies for examination of central incisors only. However, epidemiological surveys usually involve estimation of prevalence of lesions in the entire dentitions, so it is too early to recommend photography as the priority method for this type of studies.

It has already been reported by several groups of workers that photographic recording may be highly reproducible and more sensitive than clinical recording. The magnified images are likely to shift the diagnostic threshold by disclosing fine surface details that cannot be observed by the naked eye.

This may confuse the observers’ interpretation of the pathological changes or result in higher scores than observed clinically. However, for analytical as well as for demonstration purposes they can be very useful.
It is well accepted that a very important precondition for obtaining information about enamel pathology, both when dealing with dental caries or, with other types of defects is performance of clinical inspection on clean and dry, well illuminated tooth surfaces. For all types of enamel opacities, the clinical manifestation of a given amount of porosity in the tissue will be dependent on the degree of drying. However, the standard of this study was to execute clinical examinations under “field conditions”( natural light, wet teeth) and therefore, it did not comply with the requirements of a thorough clinical examination. The examination conditions, as I understand were not standartized for different examination methods:

clinical inspection was performed at schools while the photographs and replicas were taken in a more specialized environment.

Therefore, in my view, it is not fair to make a comparison with other, more elaborate methods of assessment of dental pathology.

> - Discretionary Revisions

Another thing that matters in epidemiological studies is the time spent for the examination per person. I wonder how much time did it take on average, to make a final photograph for a child? As stated by the authors, in some cases several images had to be taken until the quality satisfied the examiners. Also, how much time did it take to examine a child clinically or, to make a replica? Perhaps, a small paragraph on that issue could be added.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

'I declare that I have no competing interests'